TUNDRA OIL & GAS

Agriculture and Resource Development
Resource Development Division
360-1395 Ellice Avenue
Winnipeg, MB

May 10th, 2024

Attn: Petroleum Inspectors

RE: (16-07) 102.16-18-010-27 W1M Daly
New Battery Application – Flare Stack at Single Well Battery

As per subsection 75(1) of the *Drilling and Production Regulation* Tundra Oil & Gas Limited is submitting an application to construct a new battery to be located at 16-07-010-27 W1M surface location. A vapour collection system complete with separator and flare is to be installed at this single well battery to control H2S odors, ensure ambient air quality off lease, and ensure worker safety. This well is a few miles from the nearest tie in point and is likely to remain producing to a tank for several years. Please review the following application.

A) The application fee of $1,000 has been requested from our accounting department and will be submitted via electronic transfer with the project name attached.

B) Performance deposit for Tundra is currently topped up and up to-date.

C) A survey plan of the well site has been included in the application package.

C.1) The description of landowner consultation is attached in **Appendix A**. This appendix also includes the names and addresses for all the landowners within 1.5 km of the proposed battery. No occupants were identified within the distance parameters. There were no objections received from the interested parties.

D) (16-07) 102.16-18-10-27, well license #12111, will be the only well that will produce to this battery.

E) This well expected to produce 16.0 m3/day oil, 35.0 m3/day water, and 0.8 e3m3/day gas. The well has a calculated GOR of 52. It is assumed that 100% of the gas will disperse in the separator and go to flare. A scrubber will be utilized to prevent odors when loading a truck to haul the fluid.

E.1) A gas analysis for a similar well in the same targeted reservoir as this drill has been attached. This was used as an analog for the gas dispersion modeling.

F) Equipment specification.
- There will be a separator, 2-3 400bbl test tanks, and a flare stack with an integral knockout drum on site. The well will be electrified from a new service provided by MB Hydro.

- *The CRN and Serial numbers of the separator and flare stack will be forwarded to the Branch when they are acquired.*

- Separator Building Specs:
  - 12’ x 8.5’ building on a skid
  - Vessel is 5’ high x 28” OD. MAWP 500 PSI. 2 Phase separator
  - 2” Taylor PSV “G” orifice set at 500 PSI
  - MB CRN # TBD, SN# TBD
  - 3-way divert actuated on high level and high pressure
  - Scanner 2000 gas meter run with bypass
  - Nitrogen bottle
  - Building heater
  - Air compressor
- The flare stack is:
  - 4" dia. by 40' self-supported flare stack, Serial #TBD, mounted c/w the following:
    - Integral 24” diameter x 5’ knockout drum
    - hand winch to raise/lower stack c/w cable
    - 3" 150# Flame Arrestor
    - Electronic Ignition System (120V) with stand

G) This well will produce through the separator with a meter, and it is the only well producing to the tank, so it is tested daily.

G.1) Flare and vapour system. All gas broken out in the separator will be directed to flare on site through piping off the gas leg.

G.2) The results of the dispersion modelling for SO_2 included within **Appendix B.**

A comparable well in the same reservoir was used for the modelling. All gas is being directed to the flare stack. As per the Dispersion Modeling Guidelines for Oil Batteries in the Province of Manitoba within Informational Notice 02-215 it is assumed that the combustion conversion of H_2S to SO_2 is 100% and the radiation heat loss is assumed to be 25%. Therefore, if 100% of the gas is collected and passes through the flare this location will be in compliance with ambient air quality for H_2S.

Air dispersion modeling for SO_2 was completed at current production rates and show result of 16.26 µg/$m^{3.}$ These results are in compliance with regulations.

H) Plot Plan: a proposed plot plan has been included in the application package. Tundra will complete an as-built survey of the site and forward it when construction is complete. For site planning, we will ensure the tanks are 25 meters away from the wellhead and the flare is 25 meters away from the tanks and the wellhead.

I) A process flow diagram has been included in the application package.

K) The oil & water from this location will be hauled to the 13-10-009-28 battery where it will be processed. The water will be disposed of between the 103.13-10-009-28W1M and 104.13-10-009-28 W1M disposal wells.

If you have any additional questions, comments, or concerns please contact me at (204) 851-6229 or by email.

Sincerely,

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